

the outbreak followed a series of dry seasons, as was the case now. He thought that such a series of dry seasons was necessary for so extraordinary an increase of the species, and that there had probably been no such conditions prevailing during the interval between the two outbreaks. When the season was dry the larvæ were much more free from fungi, of course.

Dr. Howard stated that the Norwegian officials had sent to the Division of Entomology, U. S. Department of Agriculture, for the locust *Sporotrichum*, as they wished to see if it could be used against the pine bombyx.

—Dr. Dyar reported some early dates for the hatching of mosquito eggs. Eggs of *Culex canadensis*, laid at Center Harbor, New Hampshire, last August, and kept by him over winter at Washington, had hatched on the 9th of March. Mr. J. Turner Brakeley, at Lahaway, New Jersey, had found larvæ of the same species, under the ice, some time in February.

—Speaking of mosquitoes, Mr. Banks reported that he had taken *Megarhinus portoricensis* at Washington last August, and Mr. Kotinsky reported having collected *M. rutilus* along Rock Creek, in the District of Columbia, during the past summer.

—Mr. Banks exhibited a nest of the purse-web spider (*Atypus abboti* Hentz) which he had found at Falls Church. The species is rare here, though known as far north as Massachusetts.

—Upon invitation, Dr. Holland gave an account of the insect collections in the Carnegie Museum in Pittsburg, and told of the work which was being done there and of that which was contemplated. In reply to a query he stated that the "Moth Book" which he was preparing would be published soon, and would contain illustrations of 1,800 different moths.

—Dr. Dyar then presented the following paper:

NEW NORTH AMERICAN LEPIDOPTERA WITH NOTES ON LARVÆ.

By HARRISON G. DYAR.

In Bulletin 52, U. S. National Museum, a few new forms were briefly characterized. It is proposed to give fuller descriptions of them here, together with certain notes that seem worthy of record.

Parnassius clodius Ménétries.

Variety **altaurus**, n. var.

Resembles typical *clodius*, except that the two colored spots on the hind wings are centered with pale ocher yellow instead of red.

Six examples of both sexes, Alturas Lake, near Saw-tooth Mt., Idaho, 7,000-9,000 feet, July 26, 1896 (T. B. Evermann).

Type.—No. 6769, U. S. National Museum.

Lepisesia vega, n. sp.

Grayish green, the type being faded the green color is largely lost. Fore wing with a distinct basal dark green band, limited outwardly by a pale line, as distinct as the median band and not present in any other *Lepisesia*. Median band more upright than in *gauræ* and *juanita*, wider on the costa and enclosing the discal dot as usual; a well marked apical green triangle, fading out on costal edge and a small triangle on inner margin just before the angle. Hind wing red, diluted yellowish beyond middle; marginal band black, not broad. Size and general appearance of *juanita*. Expanse, 55 mm.

One male, Las Vegas Hot Springs, New Mexico, August 12, 1901 (Schwarz and Barber).

Type.—No. 6770, U. S. National Museum.

Calidota zella, n. sp.

Head and thorax dark brown, pink scales at posterior edge of vertex and on patagia within. Abdomen pinkish red above, a dorsal series of small brown dots; a lateral brown band incised above; venter grayish white. Legs gray; anterior coxæ pink on the sides. Fore wing gray-brown, a little shining; a triangular discal dot, pale yellow; hind wing whitish, translucent. Expanse, 26 mm.

Two males, Hot Springs, Arizona, June 26 and 27 (Schwarz and Barber).

Type.—No. 6116, U. S. National Museum.

Schinia marginata Haworth.

Larvæ from Mr. O. Seifert, Long Island, New York.

Head rounded bilobed, free, erect; clypeus moderate; whitish on face, the sutures dark, lobes heavily reticulate in brown. Body normal, tubercle iv well above the spiracle on the posterior segments; feet equal. Dorsum nearly all brown from broad, obscurely double, dorsal, subdorsal, lateral and suprastigmatal bands, mottled with pale and separated by narrow pale spaces. A broad white stigmatal band, enclosing the black rimmed spiracles. Subventer faintly brown mottled; venter and feet pale. Setæ pale; tubercles moderate, the dorsal ones somewhat distinctly produced, brown ringed.

Food plant, *Ambrosia artemisiæfolia*.*

Hypsoropha monilis Fabricius.

Larvæ from Mr. O. Seifert, Island Grove, Florida.

Head small in proportion, rounded bilobed, erect; pale at the sides, a

* Seifert, Journ. N. Y. Ent. Soc., x, p. 175, 1902.

large black spot on the face of each lobe just below apex and a smaller one below it on lateral angle. Body smooth, robust, normal; feet equal; segments coarsely annulate. Tubercle iv on joint 10 at the middle of the spiracle, on 11 nearly in line with v, on 12 below the middle of the spiracle. Dark sordid brown, sparsely dotted with white. The dots are mostly segregated in an irregular addorsal line and about a broad diffuse yellowish white subdorsal band and in the position of the obsolete substigmatal band. Spiracles black; tubercles small, the dorsal ones white.

On persimmon (*Diospyros virginiana*), feeding at night, concealed on the ground by day.

Lepipolys perscripta Guenée.

Larvæ from Mr. O. Seifert, Island Grove, Florida.

Head rounded, oblique, not retracted; white, thickly dotted with angular black spots and streaks. Body cylindrical, even, normal; feet equal; tubercle iv at the top of the spiracle on posterior segments (joints 8 to 10). Olivaceous brown, tubercles black in large round brown plates. A series of conspicuous round dorsal white spots, two on each segment of the abdomen, the anterior one shorter and broader than the posterior one; on thorax divided into four spots, the third spot incised by tubercle ia and partly divided on the dorsal line. A large white square in place of the cervical shield containing four black tubercles. Anal shield white with black tubercles and dots. Stigmatal band broad, white, occasionally incised with brown at the annulet folds, containing tubercles iii and iv and the small black spiracle. Tubercles v and vi white ringed outside the large brown plates. Leg shields white with two black spots. Venter pale, but not white. Thoracic feet white, spotted with black tubercles.

Feeds on *Linaria canadensis* (Seifert).

Plusiodonta compressipalpis Guenée.

Larvæ from Mr. A. Hyatt Verrill, New Haven, Connecticut.

Egg. Shape of two-thirds of a sphere, base flattened; pale yellow, not shining, smooth, very obscurely roundedly reticulate, the reticulations arranged in vertical rows with the ribs a trace more distinct; finely reticulate at the vertex. The whole sculpturing is very faint, shadowy, resembling markings rather than definite raised work. Diameter, .6 mm.

Stage I. Head small, rounded bilobed, cordate, pointed bluntly at the mouth, erect; white, eye black, mouth brown; width, .3 mm. Body cylindrical, normal, joint 12 a trace enlarged, 13 abruptly rounded; feet of joints 7 and 8 entirely absent. Translucent whitish, food green; tubercles and setæ small, black, distinct, normal, vi absent; no shields whatever; feet pale like the body. Tubercles ia to iib of thorax separate; iii and v absent.

Stage II. Head rounded, slightly bilobed, median suture depressed, obliquely erect; not shining, pale greenish yellow, eye black, mouth brown; width, .5 mm. Body slender, elongate, feet absent on joints 7 and 8; segments obscurely annulate. Pale greenish, green from the food,

slightly shining, smooth. A round, black, lateral spot on segments 4 to 8. Tubercles and shields obsolete.

Stage III. Head .75 mm. Whitish, not shining, green tinted. Body slender, green, whitish subventrally, not shining; a broad smoky lateral shade, containing in its lower part round segmentary black spots on joints 4 to 9. No shields nor tubercles.

Stage IV. As in the previous stage, green, with black lateral line and spots. Width of head, 1.3 mm.

Stage V. Width of head, 1.9 mm. As previously described by me.*

Graphiphora oviducta Guenée.

The larva closely resembles that of *G. rufula* Grote,† but is darker, and the light patch on the cervical shield occupies only the posterior third, instead of two-thirds.

Egg. Spherical, the base scarcely flattened, slightly higher than wide. Waxy white; about 48 ribs, diminishing somewhat at the ends, mostly by becoming confluent in pairs at the terminal third, stopping at the micropyle, which is slightly depressed. Ribs low, closely beaded; no cross striæ. Shape a little irregular, the basal end often considerably obliquely flattened by the pressure of deposition. Diameter, .6 mm.

Stage I. Head .3 mm, slightly bilobed, shining, with cervical shield black. Body robust, large, rather sharply rounded posteriorly, joint 12 slightly bulbous; a small black anal plate. Body transparent, green from the food, faintly shaded with brown, more so posteriorly, the anterior end being slightly attenuated and greener. Tubercles very small, black, rounded, invisible to a low-power lens except on joint 12. Setæ small, obscure. Feet normal, short, the thoracic ones faintly blackish.

Stage II. Head .4 mm., rounded, shining black. Body Noctuidiform, 12 slightly enlarged, all darkly blackish shaded. Shields and large tubercles black; setæ distinct, pale at tips.

Stage III. Head .6 mm., with shields and tubercles shining black. Body darkly sordid, with a greenish tint, brown shaded across the centers of the segments; short and robust; feet normal. Setæ distinct, blackish, tubercles large. There are traces of a broken whitish dorsal line, most distinct intersegmentally; joint 12 slightly enlarged, its tubercles i and ii in a square.

Stage IV. Head 1 mm., dark brown, shining, the apex under joint 2; cervical and anal plates black, the shield quadrate, with a pale transverse bar on the posterior edge. Body shagreened, dull black, greenish over the thorax, and paler subventrally; joint 12 slightly enlarged, with a subdorsal wedge-shaped dilution, the point directed posteriorly. Tubercles large, blackish or black; setæ coarse and distinct; iv is larger than the black spiracle, the seta situated above its middle. Faint traces of a wavy subdorsal line continuing the dilution of joint 12.

* Proc. Ent. Soc. Wash., iv, p. 326, 1899.

† Proc. Ent. Soc. Wash., iv, p. 323, 1899.

Stage V. Head 1.3 mm., rounded, the apex in joint 2, shining brown-black, sutures and sides diluted in pale luteous. Cervical shield shining brown-black, uncut by any longitudinal line, but with a broad, pale luteous bar transversely on the posterior rim. Anal plate large, pale centrally, mottled with dusky, black at the lateral margins. Dorsal area edged by a rather broad, diffuse, pale pinkish band, scalloped outwardly at tubercle ii, inwardly at the incisure, broadest on joint 12 on the slight hump. Color dark gray-brown, not shining, the skin wrinkled shagreened. Color uniform in the dorsal space, elsewhere mottled and dotted in paler, yet the pale subdorsals seem the edges of a broad pale dorsal space, not yet defined. Tubercles large, black, polished, but wrinkly, flat; tubercle iv above the center of the spiracle. Setæ dark, rather stiff.

Stage VI. Head 2.5 mm., dark, shining, faintly obscurely dark reticulate on a luteous ground, areas about tubercles i and ii pale; setæ pale; stiff. Cervical shield black, the posterior third pinkish luteous, slightly mottled, contrasted; a faint bisecting line. Body slightly flattened, joint 12 scarcely enlarged. Dorsal space broadly pale, pinkish white, sordid mottled and streaked in purplish brown, a darker central shade. The space is widened on the segments where it becomes faintly ochereous. Sides purple brown, mottled and dotted in whitish. Subventer and venter sordid olivaceous. Anal plate broadly pinkish, black on the lateral edges. Tubercles large, black, polished, iv above the middle of the spiracle. Spiracles black; feet normal, short; foot plates black, small, anteriorly situated.

Larvæ from Center Harbor, New Hampshire. They fed on various low weeds, and hid persistently under rubbish.

Stretchia mys, n. sp.

Thorax with a sharp anterior carinate crest, with fore wings rich reddish purple, uniform, very slightly hoary sprinkled, and with traces of small, pale dots on the veins in the position of the transverse posterior line. No markings whatever. Outer margin scarcely crenulate, bent at vein 3. Hind wings whitish, strongly tinted with dull rosy, darkest along the outer margin and fringe. Abdomen dull reddish. Below the body is bright reddish, the wings pale, tinged with rosy about the margins. Expanse, 35 mm.

One male, Sonoma Co., California (A. Koebele, No. 587).

Type.—No. 6773, U. S. National Museum.

Perigonica tertia, n. sp.

Male antennæ strongly pectinated. Thorax and fore wings light ochereous clay color, marked like the most pronounced examples of *P. angulata* Smith. Subbasal, t. a. and t. p. lines double, blackish, crenulate, more or less broken and dotted; orbicular and reniform blackish filled, pale edged and faintly again with blackish; subterminal line light, edged within with a dark shade, twice bent, not very distinct; a terminal row of dots. Gen-

eral surface of wing sprinkled with dark atoms. Hind wings pale. Expanse, 37 mm.

Two males, one female. California (No. 5668, collection J. B. Smith, but apparently from Hy. Edwards' collection), Portland, Oregon, April 23 and May 11, 1892 (Dyar).

Type.—No. 6790, U. S. National Museum. The California specimen bears also the type No. 249, being recorded as one of the types of *fulminans*, on the strength of a label "*Perigonica fulminans* Smith, type," in Smith's handwriting. Nevertheless, this is an error, since the only type locality given is Colorado.*

Homopyralis monodia, n. sp.

Ground color uniform blackish, slightly violaceous, without the ochreous dilutions of the other species of the genus. Ordinary spots black, illy contrasted, a dash of the same color beyond the cell. Lines fine, black, narrowly edged with white scales appearing broken and powdery, finely dentate, consisting of subbasal, t. a., t. p. and subterminal lines, the t. a. and t. p. rather remote. Hind wings similar, less distinctly marked, a double white bar resting on anal angle as in the other species. Expanse, 21 to 23 mm.

"20 10 82" (collection, J. B. Smith); "21 10 82" (collection, C. V. Riley); Rosslyn, Virginia (A. N. Caudell); Cocoa-nut Grove, Florida (E. A. Schwarz).

Type.—No. 6791, U. S. National Museum.

Mr. Caudell has prepared a larva from Rosslyn, Va., found "under a log," July 22, 1899. Moth issued August 14, 1899.

Larva. Head rounded, slightly bilobed, flattened before, erect; antennæ rather large, pale, mouth prominent; brown, not shining, with small pale yellowish flecks, a larger pair of these on the face of the lobes above clypeus and another below, indicating a transverse band. Body cylindrical, moderately slender, feet of joints 7 and 8 absent. Tubercles produced, the dorsal ones, more especially ii, papillose; tubercle iv above the center of the spiracle. Dark brown with many longitudinal lines, irregularly geminate and confluent, dotted, so as to form a coarse reticulum; spiracles in a small deep black area; venter diffusely pale; a row of small dorsal black spots in the intervals of the gemination of the dorsal line. Tubercle i marked with black before and behind, the other tubercles yellowish white. Shields reduced, lumpy tubercular, the cervical shield blackish. Setæ large and coarse, blackish. Thoracic feet pale, shaded with smoky brown.

Platythyris oculatana Clemens.

Larvæ from Mr. Henry Engel, Pittsburg, Pennsylvania.

Larva. Head rounded, circular, disk shaped, not bilobed; clypeus extremely narrow, only a little broader at base than near vertex, upper third enlarged angularly by a projection of the paraclypeal pieces, the clypeus

* Ent. Amer., vi, p. 125, 1890.

itself very narrowly high triangular, yet not reaching over two-thirds to the vertex; antennæ rudimentary, mouth small, yet with well developed spinneret; shining black, outer sutures of paraclypeus and median suture orange; antennal bases white; width 2.5 mm. Body cylindrical, robust, tapering only at the extreme ends, joint 12 a little enlarged dorsally. Feet normal, all short, the abdominal ones almost sessile, the crochets in a complete circle. Skin smooth, subtranslucent orange colored, joint 2 appearing unmarked. Cervical shield large, not well cornified, dark orange, narrowly bisected dorsally, complete; prespiracular and subventral tubercles of joint 2 orange, a little black shaded. Dorsal tubercles i to iii large, convex, smooth with the edges radially striate, shining black; anal plate black; subventral tubercles orange. On the thorax tubercles ia + ib, iia + iib, iv + v; a small black shield on joint 3 dorsally posteriorly, narrowly divided on dorsal line. On abdomen tubercle i well dorsad to ii, iv + v on a single round tubercle, vi normal, vii represented by three hairs on the leg base in a triangle.

Lives in a rolled-up leaf on *Eupatorium ageratoides*. This larva, the first larva of the family Thyrididæ to come to my notice, shows that family to be correctly referred to the Tineoidea, near the Pyralidæ.

Platyptilia marmarodactyla, n. sp.

Stone gray, with a bright pinkish ochraceous mark at base of first feather. Fore wing gray, shading to reddish along inner margin, with irregular tufts of black scales along the edge; a rounded triangular, pinkish ochraceous patch, resting on the fissure at base of first feather and narrowly touching costa, preceded by a transverse black bar before the fissure; a subterminal white line on both feathers. Hind wing gray, with an irregular row of spatulate scales on the margin of third feather. Expanse, 15.5 to 17 mm.

Seven specimens: Los Angeles Co., California, April (A. Koebele); Las Vegas Hot Springs, New Mexico, August 8, 15 and 18 (Schwarz and Barber); Santa Rita Mountains, Arizona (E. A. Schwarz).

Type.—No. 6792, U. S. National Museum.

The three Californian specimens have been submitted to Lord Walsingham in 1887, and to Prof. Fernald at a later date. The former endorsed them "*Amblyptilia*, near *cosmodactyla* Hübn.," and the latter "I do not feel prepared to separate this from *P. cosmodactyla* H." I think, however, that the species is distinct from *cosmodactyla*.

Cnectra puritana Robinson.

Larvæ collected by Dyar and Caudell at Golden, Colorado.

We sent a mass of leaves webbed by Tortricid larvæ from Colorado to Washington, D. C., where they were cared for by Mr. Busck. The plant was *Pulsatilla hirsutissima*, and the

larvæ were thought to be of one species. But three kinds emerged in Mr. Busck's hands, the present species, *Lophoderus coloradana* Fernald* and the following species. I therefore content myself with the record of the food plant.

Eucosma pulsatillana, n. sp.

Near *improbana* Walker and *radicana* Walsingham and the gray form of *nisella* Clerck. Fore wings moderately elongate, costa strongly arched; gray, irrorate with black. Basal space broadly dark as in *nisella*, the outwardly limiting line bowed outward a little at the middle, slightly oblique, so that the space is broader on internal margin than on costa, coarsely irrorate with black. A dark gray bar, limited by irregular black scales, starts from the middle of the costa and bends outward to the middle of the disk, narrowly, but sharply and squarely separated from a similar short, curved bar arising from the anal angle; a dark costal dash throws a waved, irregular line obliquely to above anal angle; three costal dashes beyond this, the outermost largest and reaching opposite the middle of margin; a terminal black band, wide centrally; fringe gray, irrorate in black. In some specimens the lower part of the basal space and the bar at the anal angle are shaded with ochreous. Hind wing light silky grayish. Expanse, 15 to 17 mm.

Twenty males and eight females bred from larvæ found webbing the leaves of *Pulsatilla hirsutissima* high on the foothills at Boulder and Golden, Colorado.

Type.—No. 6768, U. S. National Museum.

Eucosma cercocarpana, n. sp.

Veins 3 to 5 of fore wings are converged toward a marginal incision. The wings are elongate and narrow, costa convex, inner margin concave before the anal angle. Markings closely as in *improbana* Walker, but the median band is more oblique and there is a dark marking subapically.

Dark gray, the lighter parts of fore wings with shining, slightly raised scales. A large dark basal space, sharply limited outwardly and with a central angle, is irrorate with black scales on a dull olivaceous brown ground. Beyond the ground is cinereous, irrorated with olivaceous. An oblique bar from near basal third of costa to before anal angle is cut by a longitudinal black dash which causes a projection on each side, the inner one nearly or quite touching the projection of the basal patch; another projection from the bar on its outer side near inner margin extends nearly perpendicularly upward. Beyond and above the black bar is a second less evident one, situated in the upper part of an olive brown cloud subapically. A small black apical dash with olivaceous brown below on fringe. A row of small, oblique, costal bars. Fringe dark gray on lower two-thirds of termen. Hind wing brownish gray, darker outwardly. Expanse, 15 to 18 mm.

* See Proc. U. S. Nat. Mus., xxv, p. 402, 1902, for note on larva.

Three males, one female, Platte Canyon, Colorado, bred from larvæ on *Cercocarpus parvifolius*, where they occurred in small proportion mixed with the dominant *Teras foliana* Walsingham. The larvæ were not differentiated.

Type.—No. 6771, U. S. National Museum.

Mieza psammitis Zeller.

Larvæ from Mr. A. N. Caudell, Victoria, Texas.

Larva. Head rounded bilobed, clypeus broad, rather high; pale testaceous, clypeus brownish with brown sutures and a white streak on each side; retracted in joint 2, which in turn is partly retracted in joint 3. Body a little narrowed at the ends, robust, flattened, shaped much as in the Cochlidiidæ, but less elliptical; feet normal, weak, the planta with a single row of small tufted crochets. A round, eversible area just below the spiracle on joints 5 to 12 projects prominently in the inflated specimens. Pale green, with longitudinal yellowish white lines, obsolete on the anterior retracted segments. They are addorsal (i), two subdorsal, the upper (ii) broadest, lateral, suprastigmatal, broken into spots, two subventral, enclosing the eversible area, the lower one much broken, and scattered dots indicating two more lines above the feet. Feet all pale; spiracles small, circular, brown ringed. Tubercles small and obscure, with single setæ; i nearly directly dorsad to ii, whitish, slightly elevated, iii close to the spiracle and above it, iv and v below the eversible area, separate, iv dorsad to v by the diameter of a tubercle, vi subventral basally, vii on the leg base; no secondary setæ apparent. Skin finely granular shagreened.

Cocoon elliptical, brown, rather hard, much as in *Mieza igninix* Walker.

Lives on *Bumelia lanuginosa*.*

—Mr. Currie read the following paper :

THE ODONATA COLLECTED BY MESSRS. SCHWARZ AND
BARBER IN ARIZONA AND NEW MEXICO.

By ROLLA P. CURRIE.

A list of the dragonflies collected in Arizona and New Mexico during the summer of 1901 by Messrs. E. A. Schwarz and H. S. Barber is of sufficient interest to merit publication. Collecting operations extended from the last week in May till the middle of August, and 172 specimens were secured, representing 24 species and two varieties. Of this number one species, an *Ischnura*, is here described as new and named in honor of Mr. Barber who

*Proc. Ent. Soc. Wash., v, p. 127, 1903; compare Journ. N. Y. Ent. Soc., iv, p. 87, 1896.